Faculty Working Papers

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A considerable number of studies was published in the late sixties and early seventies which showed that highly educated women are rewarded less than men with equal qualifications.[1] More recently new studies have been appearing which document the fact that women are faring somewhat better, but still earn less and are promoted more slowly than men of equal performance.[2]

In this same recent period, however, arguments have appeared in the literature which state that the low representation and low rank of women on college campuses in general and in more prestigious institutions in particular, are not caused by discrimination, but by women's choice not to invest in human capital, which in turn is related to an inclination to permit "family obligations" to interfere with their careers.[3] Those who argue this position assert further that: "If one accepts the conclusion that over half of the academic salary differential by sex can be explained by the market's reaction regarding voluntary choices by females...,then the implementation of antidiscrimination polices can be reconsidered."[4] They also express concern about inflated goals for hiring, and the danger that universities may bid up women's salaries by playing a game of musical chairs with the limited number of qualified candidates.[5]

Our research serves to confirm and extend the recent findings of Bayer and Astin's "Sex Differentials in the Academic Reward System." Beyond that, the main thrust of this article is the presentation of data that lend themselves specifically to testing the hypotheses of the critics of affirmative action.

The first section describes how we obtained our data. The second briefly replicates for PhD's the type of regressions used by Bayer and Astin to

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determine the rewards of male and female college faculties. The third section addresses the impact of women's life-styles on their performance in order to test the hypotheses of the 'human capital' proponents. It also considers whether reward differentials may be the cause, as well as the result, of differences in performance.

I. Data

Our sample of PhD recepients is composed of two groups. Cohort I consists of 1400 women and 550 men chosen at random from among respondents to an earlier study by Simon, Clark and Galway.[6] All of them received their PhD's between 1958 and 1963 in the physical and natural sciences, the social sciences, the humanities or education. Cohort II consists of 1465 women and 615 men who were listed in American Doctoral Dissertations, published by the University of Michigan, as having obtained their PhD's in the same four fields between 1967 and 1971. We were able to obtain addresses for 89.6% of women and 88.5% of men in Cohort I and for 88.4% of women and 89.4% of men in Cohort II.[7] Some of the questionnaires had to be discarded because the respondents had not obtained a PhD, had obtained the degree in a year outside the specified interval, had retired or died, or were working abroad.[8] Usable questionnaires were returned by 674 women (53.7%) and 235 (48.3%) in Cohort I, and by 745 women (57.5%) and 242 men (44.1%) in Cohort II. We were left with total usable returns for 49.9% of the women and 42.9% of the men in Cohort I, and for 50.5% of the women and 40.5% of the men in Cohort II. Of course not all questionnaires were entirely completed.

In order to determine the extent of possible non-response bias, we sent a one-page follow-up questionnaire to one third of the women and one half of the men who had not responded.[9] The response rate for the second wave was 42.9% for women and 36.0% for men. Our greatest concern was whether women non-respondents

might differ in their labor force participation and marital status from those who had answered. We found that women who returned the short questionnaire were even more likely to be in the labor market - 95.6%, as opposed to 94.4%. They were also less likely to be married, 43.7% as opposed to 53.4%, and more likely to be separated, divorced or widowed, 21.6% as opposed to 14.5%. These differences should be kept in mind in evaluating our results.

A second concern was whether the more or less successful men and women would be over-represented among the respondents. We found that those answering the short questionnaires published more and received higher salaries, among both men and women, but that the difference was considerably greater for men: The number of publications for women who responded only to the short questionnaire was 17.9% higher, for men it was 37.7% higher. For salaries, women who answered on the short questionnaire received 6.0% more money; men received 10.1% more. These facts also are relevant in interpreting the data presented later.

II. Sex as a determinant of salary and rank

Table 1 presents three regressions with salary as the dependent variable. The independent variables are composed of those performance criteria that are widely regarded as important in determining professional progress, and which are also susceptible to measurement. In addition, sex is introduced as a variable in order to determine whether it has any significant effect. The regression for Cohort I, 1965 is not entirely comparable to the others, since two of the independent variables used in the latter are not available, and two others are in slighly different form. Also in Cohort I, 1965, the dependent variable is actual salary, rather than full-time-equivalent salary which was used in the 1974 Cohorts. (This, no doubt, accounts for the difference in the relevant coefficient and probably for some of the difference in $R^2$.)

Table 1

Multiple Regression; Salary as Dependent Variable

| Variable[1] | Cohort I, 1965[3] (N=2320) | Cohort I, 1974 (N=697) | Cohort II, 1974 (N=860) |
|---|---|---|---|
| Major Field | 0.0967 | -0.1160 | 0.1189 |
| Year degree received | -0.3243* | -0.2937 | -0.3745* |
| Employer (1=College or University 2=business 3=other non-profit institutions) | -- | *1.3039* | *1.2770* |
| Sex (1=female; 2=male) | 1.6702* | 2.3758* | 1.4937* |
| No. of offices held | -- | 0.4646* | 0.6026* |
| No. of children | 0.0502 | -0.0792 | -0.0401 |
| Per cent time worked | 0.8720* | 0.0459* | 0.0462 |
| No. of books published | 0.1377 | 2.5209* | 1.4206* |
| No. of articles published | 0.0350* | 1.0968* | 0.4236 |
| No. of grants obtained | 0.4071* | -0.0171 | 0.1066 |
| Year of birth | 0.0824* | 0.0326 | -0.0647 |
| Mobility index[2] | -- | 0.1837* | 0.3657* |
| Constant | 60.93 | 27.54 | 35.06 |
| $R^2$ | 0.3348 | 0.1808 | 0.2878 |

*Significant at 5 per cent level

[1]Several variables were discarded because they are significantly related to other variables in the equation. Marital status is related both to the number of children and to the mobility index. The proportion of time worked since receiving degree is related to the percent of time worked presently.

[2]This index was constructed by counting each time the subject moved to a different locality to advance his/her professional career +1; received a raise or promotion in response to an offer from another firm or institutions +1; left job because spouse was moving, but after he/she also found a job -1; turned down the opportunity to change jobs or use an offer for bargaining because spouse did not want to or could not leave -1; left job because spouse was moving and without having found a job -2.

[3]Information on mobility and number of offices held is not available in the older survey. A dummy variable representing various number of hours worked is used rather than percent time worked. Age, rather than year of birth was used in this regression.

These regressions provide interesting similarities and differences as compared to those of Bayer and Astin. One, our sample consists wholly of PhD's. The highest degree obtained, thus, is not a variable. Two, our subjects have different types of employers, a variable that is highly significant. All of the respondents in the Bayer-Astin study are faculty members. Three, we could not use rank and tenure as variables, since they are applicable only to faculty. This may, in any case, be preferable since rank and tenure are in very large part themselves determined by the same factors that influence salary. Four, in the two 1974 Cohorts we found two variables to be significant that were not used in Bayer and Astin's regressions.[10] The first was the number of offices held. (It is interesting to note that the mean number of offices held is somewhat higher for women than men in both cohorts: 1.07 and .62 for women as compred to .85 and .49 for men.) The second was the degree to which individuals are willing and able to make decisions about whether they ought to move in order to further their careers. This finding will hardly appear surprising to anyone who has observed how outside offers and threats to move are used as a way of advancing careers, but so far as we know the impact has never been measured before.[11]

We found that the mobility index for men in Cohort I was .54 and for women .27. In Cohort II the mobility index for men was .32 and for women .24. Thus, as long as women are more likely to subordinate their career to that of their husbands, their earnings will be depressed accordingly. According to our data, women, on the average, had salaries lower by $492 in Cohort I and $365 in Cohort II than if their mobility index had been equal to that of men. Furthermore, since a far smaller proportion of female PhD's are single now than in earlier years (26.3 percent in Cohort II as opposed to 50.2 percent in Cohort I during a comparable stage in their career) the importance of this problem will increase.[12]

These data are interesting because they give empirical support to theories which suggest that the lower earnings of women are partly explained by monopsonistic exploitation of the fact that an individual employer's elasticity of supply of women workers tends to be lower than that of men workers.[13] The greater willingness of men to move to further their career would cause their elasticity of supply to be higher than that of women. This explanation is entirely at variance not only with the 'human capital' explanation of wage differentials, but also that based on employer's tastes.

There is one more difference between our findings and those of Astin and Bayer. While both studies find that sex continues to have a negative effect on the earnings of highly educated women even after a large number of other variables have been taken into account, their data show that the effect is decreasing. When we use the identical equation for Cohort II 1974 as for Cohort I 1965 (see footnote 10) we find a coefficient for sex of 2.0750 and 1.6702 respectively. Both studies, however, show that 'old-fashioned' rather than 'reverse' discrimination is still what we need to be concerned with.

III. Women's life-style, productivity and rewards

The argument that women PhD's earn less than men primarily because of voluntary differences in their lifestyle rests on the following premises:[14]

1. Women accumulate less human capital.
   a. Because of "family responsibilities" women expect to interrupt their careers.
   b. Because of the expected interruption, they expect lower returns to training.
   c. Because of the lower expected returns, women are less willing to invest in their training. Consequently, they will take high paying jobs in poor institutions, in order to maximize current income. They forego the opportunity for gaining the advantages that affiliation with a prestigious institution profices for the future.

d. Because of less opportunity to further their careers in the lower rated institutions, women's earning profiles are flatter than those for men who tend to choose jobs at lower paying but higher rated institutions.

2. Women's progress is mainly reduced because of career interruptions:

a. Women in their first job earn virtually as much as men.

b. The earnings gap widens in large part because they drop out, and later return at a lower wage.

c. After women return to work, the earnings gap gradually narrows.

All of the above propositions are, to some extent, testable, and we propose to do so, using data primarily from our study.

1a. Young women making career decisions might be expected to adjust their plans to an anticipated interruption in labor force participation on the basis of established probabilities. The most conservative assumption one could make is that these would be derived from data on labor market participation of highly educated women in recent years. Our data show that 93.7% of women in Cohort I and 95.2% in Cohort II are presently working and that those women in Cohort I who are now in the labor market have worked 91.4 percent of the time that has elapsed since they received their degree. Women in Cohort II have worked 92.7 percent of the time.[15] Comparable data for men who are now working are 98.0 percent and 99.0 percent. These differences are not sufficiently large to make a convincing case for the strong effect on anticipated returns, especially in view of the fact that women in Cohort I are now in their forties and fifties and therefore would be expected to have a future labor force participation rate virtually equal with that of men.

There are other ways of looking at this question, but they all point to the same conclusion. For example, women in Cohort I who are presently in the labor

market have accumulated 12.5 full-time equivalent years of work, men 13.5 years. The data for Cohort II are 5.8 years and 5.5 years respectively. Furthermore, there is evidence that the younger group of women is even less inclined to drop out. Women in Cohort I during the comparable stage of their career now reached by Cohort II were somewhat less likely to be in the labor force than now. 8.9 percent were not working then, 6.3 percent are not working now; only 4.8 percent of Cohort II are not working. This is all the more impressive since 50.2 percent of Cohort I were single in the sixties, while only 26.2 of Cohort II are single. We find thus, that the labor force participating rate of highly educated women is only marginally lower than that of men, in spite of what some authors are still inclined to refer to as "their household responsibilities."

b. Given the above data on labor force participation, it is obvious that the effect on the expected rate of return experienced by women on the basis of career interruptions is not significant. But one might suggest that women are likely to spend fewer years in the labor market because they tend to receive their degree later. It is true that women in Cohort I were, on the average, 35.9 years old at the time they received their degree, and men were only 34.3 years. The difference for the new Cohort was 35.1 years and 32.5 years respectively. But the higher probability that women will live to reach retirement tends to compensate for this differential.

c. While we have shown that women do not spend much time out of the labor market, it might be argued that the small difference could still influence their willingness to accept a job at a highly rated institution if these institutions pay lower beginning salaries. If we do not find that low rated institutions pay higher beginning salaries, and that women are more heavily represented in those higher paying schools, we can not confirm this hypothesis.

The main problem in investigating this question is that there is no comprehensive, generally accepted rating of colleges available. Using the highly regarded

Table 2

Employment and Salaries of First Academic Job
by Ranking of School of Men and Women

| Selectivity Rating of College* | Mean Salaries Men | Mean Salaries Women | Women's Salary as % of Men's | Women as % of Men and Women** |
|---|---|---|---|---|
| 37-44 (Lowest) | $10,250 (N=16) | $9,806 (N=36) | 95.7% | 69.9% |
| 45-54 | 10,423 (N=58) | 9,746 (N=130) | 93.5% | 72.0% |
| 55-59 | 10,375 (N=56) | 8,840 (N=162) | 85.2% | 75.5% |
| 60-69 | 9,222 (N=36) | 9,218 (N=119) | 100.0% | 76.8% |
| 70-81 (Highest) | 9,714 (N=21) | 7,543 (N=69) | 77.7% | 79.3% |
| [not rated]*** | [11,447] [(N=38)] | [8,536] [(N=69)] | [74.6%] | [70.5%] |

*The selectivity rating is based on the total number of highly able students who want to enroll at the college divided by the number of freshmen admitted.

**These percentages are based on a larger sample than that in the rest of this table, for it includes those for whom we do not have information on salary.

***This category consists of a wide variety of different schools, and is therefore excluded from consideration in our analysis.

ratings of graduate departments by Cartter, and Roose and Anderson[16] is not very useful, since only a limited number of fields are covered, and in any case, only a relatively small proportion of PhD's teach at institutions with graduate departments. For these reasons we decided to use ratings of colleges provided in Astin's Who Goes Where To College [2].[17] The Astin ratings are based on selectivity of students, and cover a large proportion of colleges where PhD's are employed. Needless to say, we are not prepared to claim that these ratings represent precisely the quality we wish to measure. Some colleges which have little or no graduate work, enjoy very high ratings, higher than for instance the large state universities with excellent graduate departments. Nevertheless, the schools with low ratings are clearly the institutions that provide least opportunity for furthering a person's future career, while the very selective schools consist predominantly of the most highly rated private institutions that provide the greatest opportunity for research and advantageous personal contacts.

The data in Table 2 (based on those members of our samples whose first job was with an academic institution) confirm that women are paid less in the higher ranking categories than in the two lowest, substantially less in the top ranking schools. We do not find, however, that women constitute a smaller proportion in those categories. On the contrary, their proportion is smallest in the lowest category, where their mean salary is highest, and progressively higher in the higher categories, where their income is lower. We must therefore conclude that there is no evidence that women are unwilling to make the financial sacrifice necessary to work at a highly selective school.[18]

It is interesting to note that men are confronted with a significantly different situation. Their earnings are not much lower in the highest category than in the lowest category, and are highest in the third and fourth ranked groups.

Furthermore, the variation among groups is considerably less than for women. Thus, men lose only $709 by working in the top category as compared to the second lowest group where their earnings are highest. Women lose $2,333.

It is possible that a different grouping of colleges which more directly measures research vs. teaching emphasis might lead to different results. Our data, however, fail to confirm the contention that women attempt to maximize short run income at the expense of investment in their future.

d. Our findings confirm considerable evidence already available that women have flatter income profiles. The gap between the earnings of men and women, small at the time they receive their terminal degree, increases over time. But as we have shown, discontinuity in the labor force makes only a small contribution to this phenomenon, and there is no evidence that lesser willingness to invest in human capital makes any contribution.

2a. The second chain of reasoning we need to examine begins with the assumption that at the time PhD's get their degree neither men nor women have had the opportunity to accumulate human capital other than through their studies. Hence, one would expect that, in the absence of discrimination salaries of men and women should be the same.[19]

One problem with this line of reasoning is that a substantial proportion of people receive their degree not before they begin their professional career, but after years of having worked in their field. All available evidence indicates that years of experience have a positive effect on earnings at the time the degree is received. Beginning salaries then should not be the same for men and women unless they have, on the average, the same amount of professional experience prior to receiving the PhD. Since women are, on the average, older when they obtain the degree, and since men were more likely to have taken time out for military service, but women were more likely to have interrupted study and work for personal reasons, it is not clear what the difference between the two groups

might be. The possibility that there would be one does, however, precludes the the salary differential at the time the degree is obtained as an adequate measure of discrimination. It is nevertheless, interesting to establish what the differential is.

Johnson and Stafford [14] found differentials in six academic fields ranging from four percent in sociology to eleven percent in biology. They also cite a three percent differential between beginning earnings of men and women at Michigan State University.[20]

b. The initially modest gap between the earnings of highly educated men and women tends to widen over the first 15 to 20 years after the PhD is obtained. All studies we have seen, including ours, substantiate this fact. For example, we found that an initial differential betweem men and women on first jobs of 12.5 percent increased to 13.6 percent for present salaries in Cohort II and 15.8 percent in Cohort I.

The question that requires more careful examination is how to interpret the widening of the gap. The human capital school ascribes this development to the tendency of women to drop out, hence to accumulate less valuable experience. To test this hypothesis we examined the earnings of only those men and women who worked full-time continuously since they obtained their degree.[21] The gap in earnings among these in Cohort II is 13.6% ($1,572) and in Cohort I is 12.2% ($2,792). The fact that the gap increases, at least in absolute terms, and remains large in percentage terms, provides little support to the above hypothesis.

c. The main thrust of the human capital argument is that it is not discrimination that causes the earnings gap to increase. If it can be shown that the gap only widens during the years when women are prone to career interruptions,

then it is arguable that it is these interruptions, or behavior based on the expectation of interruptions, that causes women's earnings to decline relative to those of men. Hence it is important for proponents of this view to show that women tend to catch up when they reenter the labor force on a permanent basis.

Given the fact that the mean age of women who receive their PhD 's is 35 it is difficult to take seriously the proposition that interruptions for the purpose of child rearing have a major impact on their earnings for up to twenty years. Furthermore, there is little convincing evidence that women 'catch up' even at that late stage of their career. Johnson and Stafford [14, pp 895-6] find that "the differential either grows at a much lower rate (anthropology, mathmatics, biology) or narrows(economics, sociology, physics)" after 20 years. In fact the ratio in economics increases only from .848 to .859, in sociology from .856 to .857 and for physics from .780 to .811 between 20 and 30 years after receiving their PhD. In absolute terms the gap continues to widen.

Johnson and Stafford's evidence must be questioned for other reasons as well. As has been pointed out elsewhere,[22] these data "while intended to provide evidence with regard to the trend of earnings over time, are derived from cross section data. This is a serious issue, since older...women are far less likely to be married, and there is considerable evidence that single women earn more than married woman...[second] there is cause to believe that women with the flattest salary profiles are the most likely to retire before they reach 30 years of experience...[for] they received their degree at a higher age, on the average, than those whose salaries have increased more rapidly."

It is also interesting to note that other cross section studies, presumably subject to the same biases, nevertheless find the earnings gaps widening in the very late years. A recent investigation of the faculty on one university

campus [23] showed that "Females with nine to 25 years of experience earn about 20 percent less [than men], and females with 26 or more years of experience earn about 40 percent less than males with equal experience."

In view of the conflicting evidence, the most favorable verdict one can render on the hypothesis that men's and women's earnings profiles confirm the importance of women's career interruptions as the cause of their lower earnings is the Scotch verdict of 'unproven.'

Is there a plausible alternative explanation for the undisputed fact that the earnings gap between women and men does widen for a good many years after they receive their degree? Johnson and Stafford implicitly suggest one themselves, namely that women tend to receive their PhDs at a somewhat later stage of their career and that both men and women who receive their PhD's later tend to have a flatter earnings profile after obtaining their degree than those who obtain their PhD earlier.

Another reason (one that has already been mentioned in Section II) that women's earnings increase less than men's is that men are more likely to determine where they will work primarily on the basis of whether it enhances their career. Thus we find that the mobility index[24], which effects earnings favorably, is .273 and .243 for women in Cohort I and II respectively, and .543 and .324 for men in Cohort I and II. It might be argued that these differences are based on voluntary decisions that men and women make. But it is likely that a rational couple would weigh more heavily the career interests of that person who, caeteris paribus, may be expected to earn more. Hence that portion of the earnings gap which is due to discrimination is likely to be responsible for behavior which, in turn, further increases the size of the gap over time.

This is only one example of possible cumulative discrimination, which would help to explain why women increasingly fall behind. Several studies, for instance, have found that women spend more time teaching and less on research

than men.[25] To the extent that work assignments are responsible for this difference, they too contribute to the lower publication record of women, which in turn causes further deterioration of the status of women as compared to men.[26]

There is at least one additional important instance of cumulative discrimination. By rational criteria household tasks would be alloted primarily to the person whose opportunity costs are lower. The wife, whose salary is somewhat smaller to begin with, would therefore be expected to assume major responsibility at home. This would result in her having less time and energy to spend on the job, therefore, causing her to fall increasingly behind. Thus, a relatively minor earnings gap between men and women at the beginning of their careers, or relatively minor differences in job assignments and opportunities for advancement at the outset can prove to be important in the long run. For they may help to establish behavior patterns which could greatly magnify the impact of initial discrimination.

Concluding Remarks

All of our data lead us to reject the proposition that the lower rewards of highly educated women are chiefly caused by their voluntary decision to accumulate less human capital, and to confirm that women PhD's continue to be rewarded less than their male colleagues. Our findings should therefore contribute to dispelling the myth of widespread reverse discrimination, and to rejecting the contention that "...the implementation of anti-discrimination polices can be reconsidered."[26] On the contrary, the evidence presented here points toward the need for vigorous pursuit of anti-discrimination and affirmative action policies.

## Footnotes

[1] Astin and Bayer; Dawkins, Levasich, Scott, Sherman and Whipple. There were also numerous studies of individual campuses, such as Loeb and Ferber, and Gordon and Norton.

[2] Bayer and Astin, Centra. There are also several recent reports for individual campuses, such as Appleton, Denman, and Dugan.

[3] Lester, Feldman, Johnson and Scafford.

[4] Lester.

[5] Lester

[6] Findings of that study were reported in Simon, Clark and Galway and Simon, Clark and Tifft.

[7] These percentages laid to rest our concern about 'losing' more women because of name changes, and possibly, a greater proportion without professional affiliation.

[8] Those living in Canada were retained in our sample on the assumption that conditions of work were essentially the same as in the U.S.

[9] We originally intended to conduct a telephone follow-up as well, but found it extremely difficult to obtain numbers other than those at the office. The obvious bias of such a sample caused us to discard this approach.

[10] For purposes of comparison we also ran a regressions for 1974 with only the variables available for the 1965 data. The results are shown below.

| Variable | Cohort I, 1974 | Cohort II, 1974 |
|---|---|---|
| Major Field | -0.0751 | 0.2495 |
| Year degree received | -0.3270 | -0.3265* |
| Sex (1=female; 2=male) | 2.8566* | 2.0750* |
| No. of children | -0.0964 | -0.0603 |
| Per cent time worked | 0.0482* | 0.0491* |
| No. of books published | 2.3626* | 1.7294 |
| No. of articles published | 1.2966* | 0.3918 |
| No. of grants obtained | -0.1119 | 0.0155 |
| Year of birth | 0.0193 | -0.1155* |
| Constant | 31.56 | 35.27 |
| $R^2$ | 0.1123 | 0.1456 |

— None of the coefficients came in with a different sign; only one becomes significant at the 5 per cent level that was not before. The main change is that the explanatory power of the regression, as represented by the $R^2$ is somewhat lower.

[11] However, the findings of our earlier study that faculty members with spouses also on the academic staff of the same university earn less is most likely related to their inability to use outside offers as a way of furthering their career. (Ferber and Loeb).

[12] Our data show a very low mobility index for men and women married to other Ph.D.'s. The index is .060 for men in Cohort I and .-0.540 for women, in Cohort II it is .025 and -.281 respectively.

[13] Cardwell and Rosenwzweig; Madden.

[14] The propositions below are directly derived from Johnson and Stafford.

[15] These rates would be somewhat lower if women presently not in the labor market were included, because some women have not worked outside the home since receiving their degree. Their exclusion is, however, justified since we are only concerned with the expectations of women in the labor market.

[16] Cartter; Roose and Andersen.

[17] The colleges not rated consist of a mixed group including community colleges, new universities and branches of state stystems, Canadian universities, etc. Those not rated constitute 16.9 per cent of those where men are employed, 11.8 per cent for women.

[18] Strober and Quester, argue that since nearly all women Ph.D.'s expect to reenter the labor market after they drop out, they would be even more eager to build skills and establish contacts, so necessary to a successful reentry, than those Ph.D.'s who anticipate no career interruption. This might be the explanation for the higher per cent of women who take their first jobs in highly selective institutions.

[19] This view conflicts with the one examined previously which holds that women, in an attempt to maximize short-run income, will take jobs that pay well but have little prospect for future improvements. If this argument were valid, we should expect women to earn more in their first jobs than men. Since we did not find evidence to support this contention, we need not concern ourselves further with this issue.

[20] Pp. 895-899 For all members in our sample who gave information on their first salary, we found women's salaries to be lower by 12.5 per cent. Since neither field nor time of degree were held constant this information must be treated with considerable caution.

[21] It might still be argued that men accumulate more capital because they report working longer hours. Since these data are self-reported, they need to be taken with more than a few grains of salt. One wonders whether coffee breaks at school and discussions in the hallways of the sport of the season are subtracted.

[22] Fabber, Loeb and Lowry.

[23] E. P. Hoffman.

[24] Explained in footnote 2 of Table 1.

[25]Hoffman, found that at the University of Massachusetts, Amherst males spend 26.8 hours per week in teaching and related activities, women spend 33.8 hours. Hoffman, p. 19. Simpson also found that "Academic women...have more teaching responsibilities..." p. 28.

[26]Strober and Quester also suggest that possibly "...women invest less and less in themselves as they become increasingly discouraged." This possibility needs to be taken seriously, for Johnson and Stafford's argument that "although the returns to investing in an additional unit of human capital are lower for a group which is discriminated against, the opportunity costs of investment are correspondingly lower" is not convincing. An important opportunity cost of investing in human capital, e.g., doing more research and writing, is not only the foregone opportunity to earn money, but the loss of time spent on activities not related to earning money. Are we to suppose that this time is less valuable to women than to men?

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